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TRAIL & LANDSCAPE

A Publication Concerned With Natural History and Conservation

The Ottawa Field-Naturalists' Club

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The Ottawa Field-Naturalists' Club

— Founded 1879 —

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David W. Moore

Objectives of the Club: To promote the appreciation, preservation and conservation of Canada's natural heritage; to encourage investigation and publish the results of research in all fields of natural history and to diffuse the information on these fields as widely as possible; to support and co-operate with organizations engaged in preserving, maintaining or restoring environments of high quality for living things.

Club Publications: THE CANADIAN FIELD-NATURALIST, a quarterly devoted to reporting research in all fields of natural history relevant to Canada, and TRAIL & LANDSCAPE, a quarterly providing articles on the natural history of the Ottawa Valley and on club activities.

Field Trips, Lectures and other natural history activities are arranged for local members; see "Coming Events" in this issue.

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Membership application, correspondence :
THE OTTAWA FIELD-NATURALISTS' CLUB
Box 35069, Westgate P.O.
Ottawa, Ontario K1Z 1A2

Information:
(613) 722-3050
After 10 a.m.

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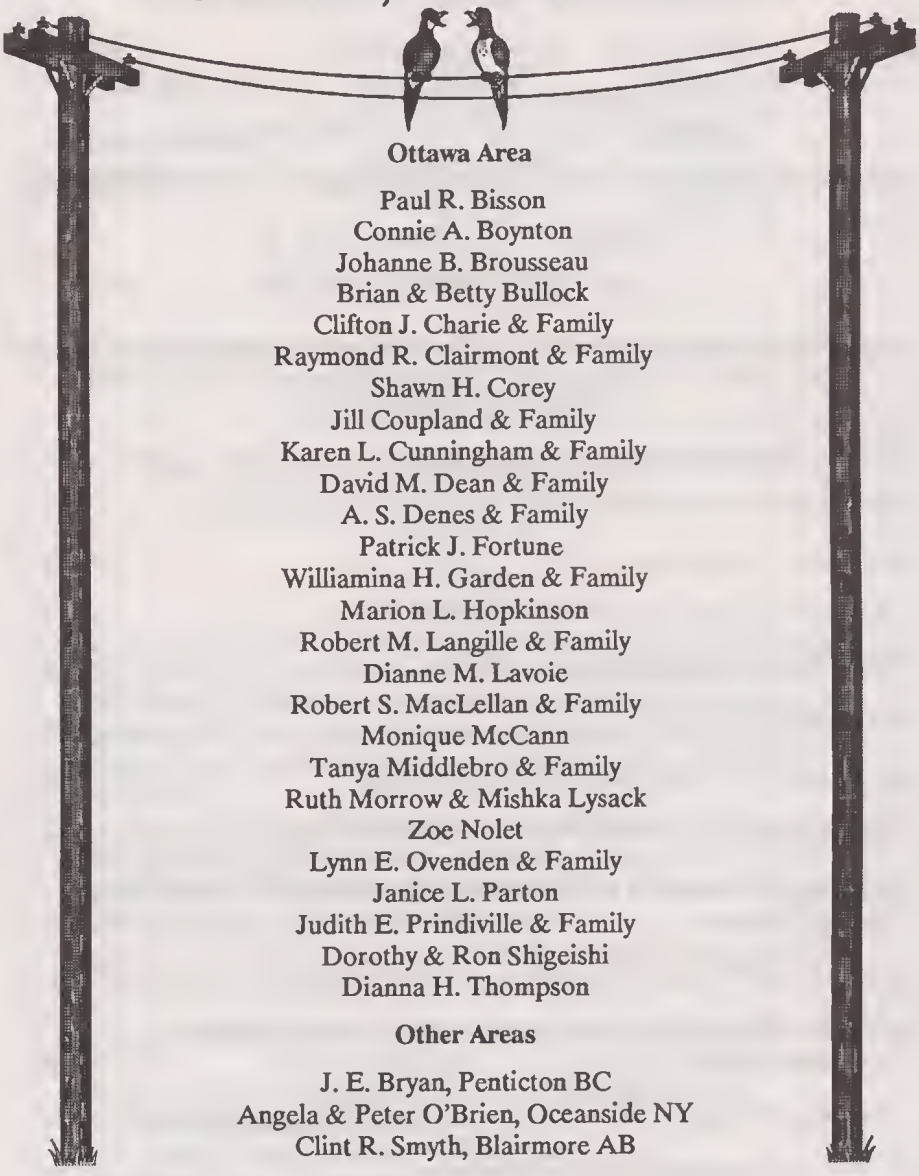
Welcome, New Members



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Questions or comments about anything to do with our Club are always most welcome and will be responded to promptly.

Dave Smythe for
P. J. Mickey Narraway
Membership Chair¤

The 1997 Soirée and the 1996 OFNC Awards

Cendrine Huemer with photos by Ken Taylor

To include as many pictures as possible, we present a pictorial collage of the 1997 Soirée at the Unitarian Church on April 25, 1997, featuring those honoured. This should serve as a memory for those who were there, and an incentive to attend next year's event for those who were not.

Catherine O'Keefe *(right) is presented with the* **Member of the Year Award** *by Isabelle Nicol.*

Enid Frankton (centre) with winners of the **Conservation Award for Members**, *given to the Fletcher Wildlife Garden team of* **Christine Hanrahan** *(left) and* **Sandra Garland**. *Their combined enthusiasm and drive have healed a piece of dammaged land and made the FWG a welcoming and interesting place to visit.*

Bill Arthurs,chair of Awards Committee, presenting the **Anne Hanes Natural History Award** *to* **Jack Gillett** *for his work on the vascular plants of the Ottawa District. Jack's humble response, which belies his expertise and his vigour, was that "this is fun and keeps an old man off the streets."*

The **Conservation Award for Non-member** *went to* **Dr. J. Gordon Nelson** *(left) who has contributed to the cause of parks and protected areas for the past 35 years. He is currently researching the effectiveness of current conservation practices at Long Point Bird Observatory, Ontario.*

Club President Dave Moore presented the award. Our hearts go out to Dave whose son is recovering from being hit by a drunk driver. Dave compared his son's scars to those of our planet, and entreated all of us to take upon ourselves the healing of our planet. In contrast to the situation for his son, there is no designated, skilled and relatively well-paid cadre of health care workers dedicated to mending the Earth.

Bruce Di Labio (above, right) accepting an **Honorary Membership** *from Cendrine Huemer.*

The youngest recipient of this award, Bruce gave an emotional and heartfelt speech thanking in particular his expectant wife Laurie, and Dan Brunton, and confessing that "I have been known to misidentify a few birds."

A second **Honorary Membership** was awarded to **William O. Pruitt, Jr.** (*in absentia*) for his long time contribution as an associate editor of the Canadian Field-Naturalist. Partly through his efforts and his high scientific standards, the CFN has achieved an excellent international reputation.

Monty Brigham received the **George McGee Service Award** (*in absentia*) for his numerous Club outings and countless workshops for the Club over the years. You might remember Monty from his bird sight and sound identification evening.

Bill Cody (right), Business Manager of our Club for over 30 years, is always able to catch up on business with so many OFNC people gathered in one room.

First place winner of the Macoun Field Club displays was **Sara Potvin-Bernal** (top left) for her display on **poison dart frogs**. Second place went to **Susan Oda** (left) for her display on **wetlands**. Third Place was awarded to **Joseph Somers** for his presentation on **Belize**. He is shown above receiving the award from judge Laurie Consaul. **Honorary mentions** were presented by judge Stephen Bridgett to **William Godsol** (below left) for his work on **spring insects** and to **Pascal Lussier** (below right) for his presentation on **comets**. The annual reports of the Macoun Field Club were presented by Susan Oda for the Juniors/ Intermediates and by Rebecca Danard, graduating president of the Seniors. Rebecca recounted several funny incidents from Macoun trips past. She plans to enter the University of Ottawa's biology program.

"Canoe on the Water," Bellisle Bay, St. John River, NB, by Carolyn Molson was voted best in the art and photo competion. Don't be shy about exhibiting your work. Everyone delights in seeing our local talent.

Many thanks to Eileen Evans and her refeshment team.¤

Highway 416

Linda Jeays

a severed groundhog
head body
food for scavengers
waiting vigilant by
blood soaked asphalt
where speed divides
the travellers into
alive dead

Certificates of Appreciation

Chris Traynor
Chairman, Birds Committee

The Birds Committee presented five Certificates of Appreciation to the following people in recognition and thanks for gracious hospitality in 1996 to the birdwatching community. The bird or birds that drew this attention are also mentioned with thanks.

Mr. T. G. Caterill
Aylmer, QC
Overwintering Ovenbird and Brown Thrasher

Mr. Fergie Ferguson Nepean, ON Tufted Titmouse	Ursula Brown Ashton, ON Varied Thrush	Bob Gorman Ottawa, ON Harris's Sparrow

Mark Armstrong & Laurie Consaul
Oxford Station, ON
Red-bellied Woodpecker

Certificates were also awarded to Dr. & Mrs. Alex Scott, Stella, Amherst Island, for access to the "Owl Woods" and to long-time Ottawa Citizen columnist, Elizabeth Le Geyt, Manotick, for her commendable reporting on the birding scene in Ottawa.

Suggestions for possible recipients are welcome and may be directed to myself or to any member of the Birds Committee.¤

OFNC Web Site

Alan German

The Ottawa Field-Naturalists' Club now has a presence on the World Wide Web. Members with access to the Internet will find our home page at:

http://www.achilles.net/ofnc/ofnchome.htm

The web site is designed primarily for non-members, to introduce new people to our Club by showcasing our objectives, our programmes, and to promote interest in nature.

Some Club members may find the on-line guide to meetings, field trips, and other Club events to be a useful addition to the listings in *Trail and Landscape*. The web site also contains specific information on birds, conservation, the Fletcher Wildlife Garden, a catalogue of publications for sale, and much, much more.

The initial site has been developed by OFNC's "Web Team" working as a subgroup of the Computer Management Committee. The Web Team is composed of individuals who answered a call for volunteers published in the Jan-March edition of *Trail and Landscape*. Led by Sandy Garland, our Web Master, team members are Sandra Gushue, Dorothy Hansen, Francois LaFleche, and Bev Scott.

Much of the material placed on-line has resulted from input by other Club committees. We hope that the dynamic nature of the web will be reflected in the OFNC site, with continuing updates and new material being posted to the site.

Please take a look at the Club's site, and encourage your friends to do likewise. Your comments, criticisms, and suggestions will be most welcome. Send the Web Master a note by electronic mail to: ofnc@achilles.net¤

FON Notes

Frank Pope

In February I had the opportunity to present a display of educational material prepared by the Federation of Ontario Naturalists (FON) at two professional development days for Carleton Board of Education teachers. The event took place at the Congress Centre, Thursday for separate school teachers, Friday for public school teachers. We provided some information about The Ottawa Field Naturalists' Club but could not mount a big display because of a previous commitment to provide a display for the Sportsman's Show that was on at the same time at the Civic Centre.

Several teachers commented upon the practical usefulness of the material on display and many were speaking from experience, having used it in the classroom. Impressed by the professionalism of the teachers that I met, the quality of the FON material and the complementary nature of the services offered by our Club, I thought I should write a note about the experience. This seemed an ideal forum to meet people who have direct contact with the next generation plus the motivation and the skill to inspire an appreciation of nature. Our task is to provide them with practical support.

The support offered by the FON consists of printed material (some in French), posters, audio tapes, a toll-free telephone number and a web site. The printed material includes books, instructional kits, brochures, pamphlets and a quarterly magazine. This material is provided free or at cost. It is designed for teachers, recreational group leaders, conservation activists, students, children who are or might be interested in exploring nature around home, and adults with an interest in nature who wish to keep up-to-date on current events affecting nature in the province.

Here are some examples of the printed material that was on display. Primary/junior level teaching guides were available for birds, insects, trees, flowers and reptiles in the "Introducing Series." A junior/intermediate level education kit entitled "Why Wetlands?" and a classroom resource at intermediate/senior level for soil conservation were on display. These guides and kits are designed to support the currently approved education curriculum. Two outdoor nature activity mini-kits, one entitled "Wildlife and Habitats," the other "Wetlands," were provided for leaders with recreational groups of children ranging from 8 to 12 years of age. The same age group at home is served by "The Jumbo Book of Nature Science," two colourful books on wetlands and habitats, and a family

nature supplement associated with "Seasons," the FON's award winning quarterly magazine. Free brochures as hand outs at displays are available, two popular ones in February being "Backyard Habitats" and "Natural Invaders." Naturalists concerned about the preservation of nature are well served by such publications as "Atlas of Breeding Birds in Ontario," "Black Bear in Ontario" and "A Citizen's Guide to Wetlands and Woodlands."

Here are some examples of other FON material presented in the display. The "Introducing Series" of 19" x 25" posters covers birds, insects, trees, flowers and reptiles. Another popular poster was the 34" x 22" "Life in an Ontario Wetland." Nine "Sounds of Nature" audio cassettes such as "A Day in Algonquin Park" were available.

A tabloid entitled "FON Classroom Resources/Nature & Environment Publications" describes the above material and gives prices. Should any of this catch your eye, perhaps you would like a copy of the tabloid, or even if you have a question or are searching for ideas, help is at your fingertips. "Econet," the EcoEducation Network Project, has two toll-free help lines and two web sites.

For information on nature and wildlife, dial 1-800-661-8830 or visit the web site at *http://www.web.net/fon*

For information on environmental issues and energy conservation, dial 1-800-GREEN38 or visit the web site at *http://gbr.org*

Why not try this service? Even if they cannot solve your problem, I am sure they would have ideas you could use. They would be pleased to learn more about how best to support you in nature education.

This experience set me to thinking about how the Ottawa Field Naturalists could support and enhance FON's provincial educational initiatives at a local level. We do have a lot to offer.

For classes or other groups of children, coming to mind are:
- the Fletcher Wildlife Garden with easy-to-reach demonstration habitats
- illustrated talks on nature
- guided nature walks
- Macoun Field Club for keen young naturalists

To support leaders we have:
- check lists of local plant and animal species and other references
- displays for public events
- quarterly *Trail & Landscape* plus excursions and lectures
- telephone contact number (722-3050) and, soon, a web site

These are all things that we do now. Were the demand to increase sharply we would need more volunteers. Naturalists, however, do enjoy sharing their expertise and I am betting that, given a little time to get up to speed, we could expand our educational program considerably.¤

Rockroses of the Ottawa District

John M. Gillett

Canadian Museum of Nature

Rockroses belong to a medium-sized family of plants called the Cistaceae. There are about 200 species in this family, assigned to 8 genera. They consist chiefly of shrubs, and subshrubs, occasionally herbs. Some of them bear large showy flowers which are grown as ornamentals. These belong to the genera *Cistus*, *Helianthemum* and a few other genera.

Most of the members of this family occur in the Mediterranean region, through southern Europe, Africa and the Caucasus. They are called Rockroses because some have flowers that superficially resemble roses and because they grow in rocky places. The cultivated species and their hybrids have showy flowers and are well adapted to dry places in full sun, so are suitable for rock gardens. Unfortunately most are not hardy in our winters.

However, we do have three genera represented by one species each, which are found in our region. One of them, the Frostweed or Rockrose (*Helianthemum canadense*) occurs only at Constance Bay. The other two, False Heather (*Hudsonia tomentosa*) and Pinweed (*Lechea intermedia*) are more widespread.

The False Heather or Beach heath, Hudsonie tomenteuse (*Hudsonia tomentosa* Nutt.) is a prostrate, bushy, much branched, almost shrubby plant that forms dense mats or bushes 20 to 60 cm in diameter. They have small, soft-hairy, scale-like, lance-shaped to oval leaves, crowded together 1 to 4 mm long that are closely appressed and overlapping. Flowers are yellow, about 6 to 10 mm wide, borne on stalks (1 to 5 mm long) on lateral side branches, with 5 petals that soon fall off. The 5 sepals have the outer 2 smaller than the inner 3. The fruit is a small capsule enclosed in the persistent calyx. Stamens are irregular in number and very numerous.

False Heather grows on sandy beaches and dunes in our area and is common in such habitats along both sides of the Ottawa River. At Constance Bay, most of it has been eradicated by the cottage development but you may be lucky and find some. If not, it is just across the river; I have seen it at Baie Feline and other sandy places. If you want to go farther afield, I have seen it on sand duncs on Ile aux Allumettes, on the beach near Fort William, at Sand Point near Westmeath, at Round Lake, and in the Petawawa area. Flowering is in May

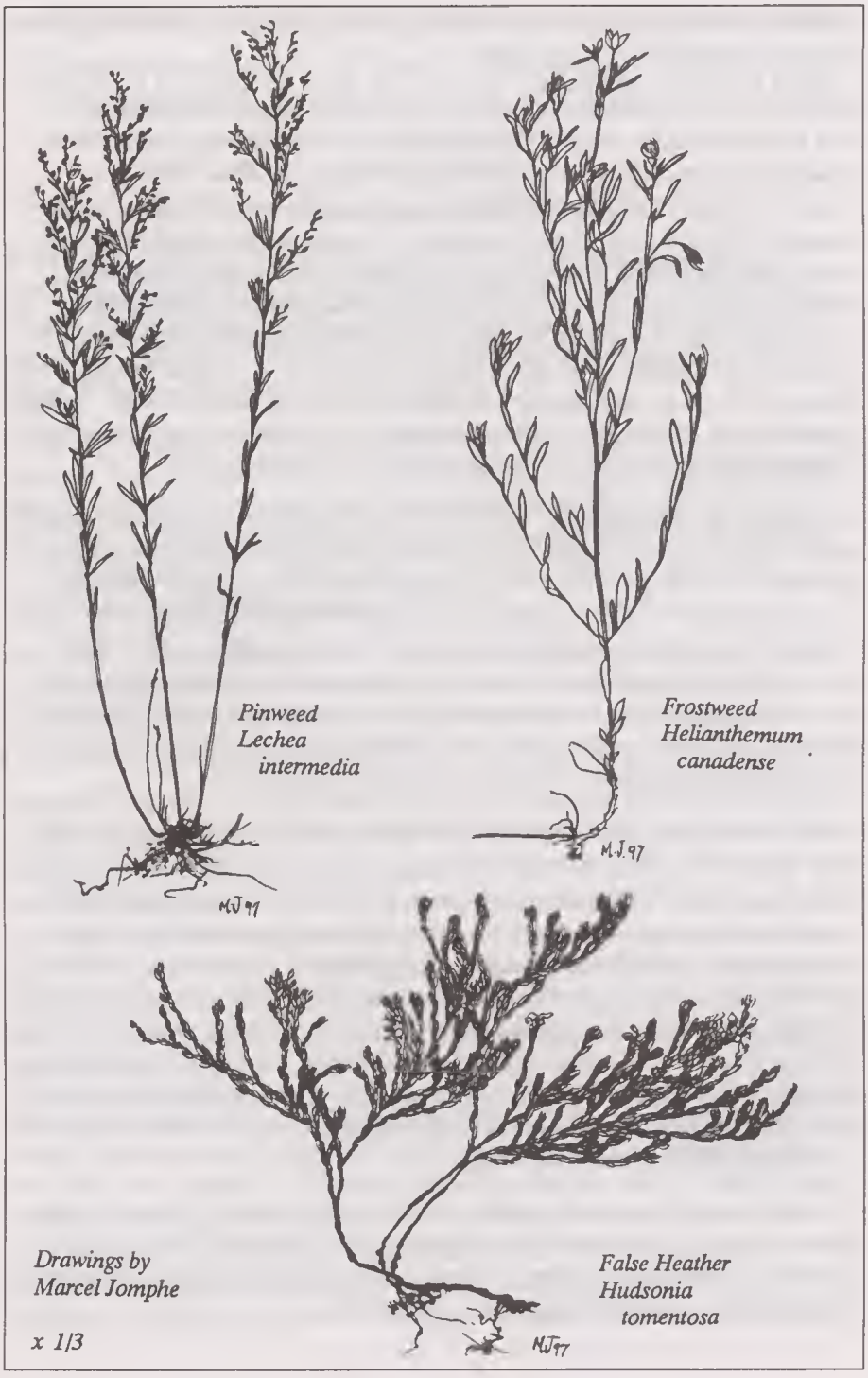
and June but the plant is visible all season. Unfortunately the river is in flood in May so you may not see it until later.

Frostweed or Rockrose, Hélianthème du Canada (Heliantheum canadense (L.) Michx.) is found only at Constance Bay in our region but it ranges from Maine to Minnesota south to Tennessee and North Carolina. There are about 120 species found in the Mediterranean region, and in North and South America of which about six are cultivated. The name is interesting because it comes from the Greek *helios*, sun, and *anthemon*, flower, and refers to the flowers which open only for a short time in the sun. For this reason they are sometimes called Sun-roses. But the rose appellation is misleading because they are not related to roses at all. At the beginning of the season yellow flowers 1.5 to 2.5 cm in diameter are produced; later on smaller flowers without petals appear. Both types produce capsules of two different sizes corresponding to the flower size, but the contained seeds are similar in both.

Our plants are perennials having the stem and foliage covered with star-shaped hairs. Plants are erect or nearly so with one to several stems that are sparsely branched but later produce flower-bearing branches in the upper leaf axils. Leaves are linear to oblong, invert lance-shaped to elliptic, and are about 2 to 3 cm long. The petal-bearing flowers are one or two in number and are about 2 to 4 cm wide. Sepals are 3 or 5 but when 5 the outer two are much narrower than the inner and they are covered with dense star-shaped hairs. Capsules of the petalled flowers are 0.4 to 0.6 cm in diameter. At Constance Bay they are found on stabilized dunes. They flower in late May and in June.

The Pinweed, Léché intermédiaire (*Lechea intermedia* Leggett) is a perennial herb 20 to 60 cm tall. It has one to several erect stems with alternate branches diverging at about 45 degrees. At the base of the stems are a number of leafy branchlets forming a loose rosette. Leaves of the main stem are up to 2 cm long, narrowly lance-shaped or reverse lance-shaped. Those of the rosette are smaller, 0.4 to 0.8 cm long and more numerous. Flowers are borne in a panicle, that is the flowers are borne alternately on each branch of the main stem. The leafy panicle takes up to about 1/3 to 1/2 of the main stem. There are three red petals which are smaller than the five sepals. The outer sepals are shorter than the inner. The capsule and persistent calyx are globular or broadly ovoid. Seeds are shaped like a section of an orange.

This is a plant of dry, usually sandy or gravelly sterile soil and is found in open glades or fields. I have seen it on an esker near Ste Cecile de Masham, but the important point is that it grows in the open. Flowering takes place in June and July but plants are visible right up to September.


Pinweed
Lechea
intermedia
Frostweed
Helianthemum
canadense
False Heather
Hudsonia
tomentosa
Drawings by
Marcel Jomphe
x 1/3

Here is a key to the three genera. Because there is only one species in each genus in this region, then you have it!

1. Petals 5, yellow, conspicuous 2

1. Petals 3, dark red, minute; style none ..... *Lechea* **(Pinweed)**

2. Leaves clearly alternate, lance-shaped to oblong, not overlapping; style short ..... *Helianthemum* **(Frostweed)**

2. Leaves narrowly linear, crowded and scale-like; style slender, elongate ..... *Hudsonia* **(False Heather)**

You may find looking for these plants a bit of a challenge. In the case of *Hudsonia* you can at least go for a swim to celebrate your discovery.¤

Anthropomorphism ... Talking Turkey

P. J. Mickey Narraway

I'm glad that I don't talk chickadee,
I'm sure that my cheeks would burn.
The hysterical scream of the robin
is a panic, I don't want to learn.

While the redbird boasts about his looks
and the osprey squeaks just to sing
The barred owl worries about who cooks
and the ruby-crowned roars like a king.

But the veery whispers his lullaby
beside some hidden stream
And the pewee his, and I almost recall ...
but only children can dream.

But I really wish I could understand
the most patient of the birds
For the past ten springs my swallow has tried ...
But I still haven't learned the words!

White Oak (*Quercus alba*) in Southeastern Ontario and the Ottawa District

Daniel F. Brunton

To look at "Native Trees of Canada" (Hosie 1969) or its recent revision "Trees in Canada" (Farrar 1995), one would conclude that White Oak (*Quercus alba* L.) is to be found all over southeastern Ontario and southwestern Quebec. It is a familiar and important timber tree in eastern North America as far north as southern Ontario and is described as uncommon in the Ottawa District (Gillett and White 1978).

Despite these declarations, however, an examination of the Agriculture Canada (DAO) and Canadian Museum of Nature (CAN) herbaria revealed no evidence for its occurrence in the Regional Municipality of Ottawa-Carleton (RMOC) except for a planted tree in Gloucester and another in Ottawa South. Strangely, then, this southern species could only be confirmed from the Outaouais portion of the Ottawa District where it was and is considered to be provincially rare (Bouchard *et al.* 1983). It is found there locally along the southern edge of the Canadian Shield in Pontiac, Gatineau and Papineau Counties, the largest stands being found along the Eardley Escarpment in Gatineau Park (Brunton and Lafontaine 1974; Rousseau 1974). Scattered trees have since been discovered along the Ottawa River shore at Wychwood in Aylmer by Daniel Gagnon.

So why is there such a contradictory record for the eastern Ontario and Ottawa District status of White Oak? A false understanding of its distribution is due in large part to misidentifications of Bur Oak (*Quercus macrocarpa* Michx.). This is a common tree of open, scrubby regenerating fields and woodlands in the RMOC. The general form and leaf shape of the two oak species are very similar, leading to frequent misidentification. Further confusion results from the common practice of lumping these two with a number of similar oak species under the catch-all name, "white oak."

With this in mind, when Britannia resident Greg Ross advised me that he had seen *real* White Oak in the Britannia Conservation Area, I was less than convinced. It doesn't occur in the RMOC, right? And besides, this is such a well-known place that we surely know all of the tree species growing there, right?

Figure 1. Mature White Oak in dry scrub at Britannia Conservation Area, April 1995.

Figure 2. Clarence Frankton by mature White Oak at Britannia Conservation Area, April 1995.

Wrong. In early 1995, visiting botanist Bill Crins casually drew my attention to a White Oak sapling as we walked along the western boundary of the conservation area. From his experience in the Halton and Muskoka Regions of Ontario, seeing White Oak in such a site was an ordinary enough experience. After I recovered from my surprise and explained to Bill that it was not *supposed* to occur here, we gave the immediate vicinity a more detailed examination. We eventually determined that there were many White Oaks present, at least 40 being mature trees (*Figure 1*). Subsequent surveying with Clarence Frankton and others determined that it is scattered throughout the drier upland area along the western side of the conservation area. Voucher specimens for this population have been deposited in the TRT, DAO and DFB herbaria.

White Oak at Britannia grows in thin, dry soil over shale bedrock with Red Oak (*Quercus rubra* L.) and White Pine (*Pinus strobus* L.) and occasionally with the uncommon southern tree, Hackberry (*Celtis occidentalis* L.). The largest White Oak trees (*Figure 2*) form a substantial grove along the western boundary of the conservation area just south of the Jamieson Avenue pedestrian gate off Britannia Road. Scattered individuals occur on drier hummocks further southward.

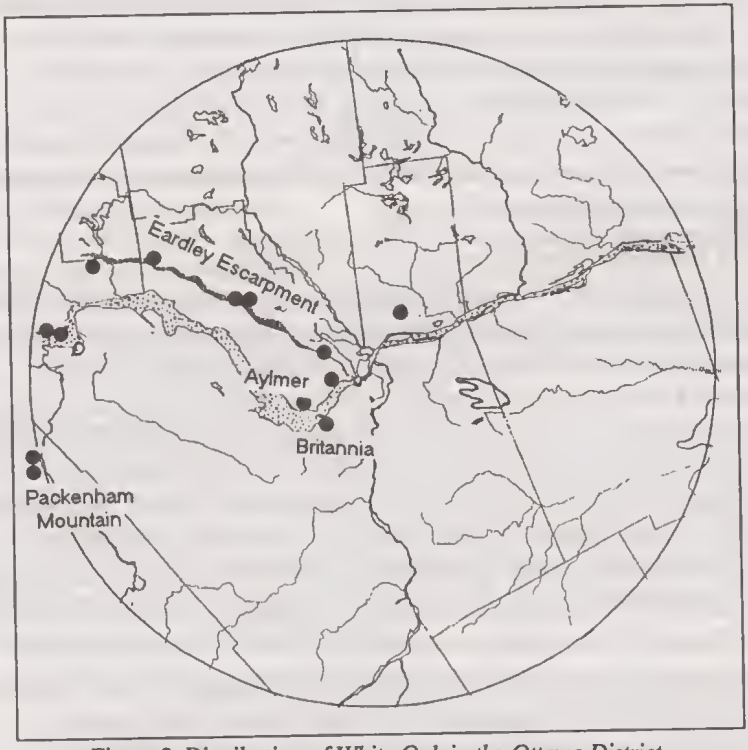


Figure 3. Distribution of White Oak in the Ottawa District (solid dot = location of specimens in CAN, DAO or TRT).

White Oak in the Ottawa District

When one examines the distribution of White Oak in the Ottawa area its occurrence at Britannia is not really so surprising (*Figure 3*). The stand of scattered, mature trees along the Ottawa River in Aylmer occurs only a few kilometres away and on the same band of outcropping shale and sandstone bedrock that underlies Britannia. The exposed areas of the non-calcareous bedrock favoured by White Oak are rare off the Canadian Shield in this limestone-dominated region (Renaud 1979).

The White Oak population on the southern edge of the Canadian Shield along the Eardley Escarpment appears to be part of a relict community originating during the hypsithermal period, a time several thousand years ago when the climate in the Ottawa Valley was considerable warmer than it is today (McAndrews *et al.* 1987). Southern plant species apparently migrated along the escarpment up the Ottawa Valley from the St. Lawrence River during this warmer period and have remained in isolated sites where suitable conditions persist. The Eardley Escarpment oaks grow with such southern tree species as Red Juniper (*Juniperus virginiana* L.) and Hackberry (Brunton and Lafontaine 1974). This population may well represent the original source for the other Ottawa District White Oak populations in the Outaouais and the RMOC. White Oaks are found adjacent to the District at two sites on Pakenham Mountain in northern Lanark Co. (*Figure 3*). Most of the Ontario section of the Ottawa District, then, appears to constitute an 'embayment' of largely unsuitable (or at least, unoccupied) White Oak habitat between two extensions of the species' range (*Figure 4b*).

White Oak in eastern Ontario

Although believed to be widespread across the sedimentary lowlands of eastern Ontario and adjacent Quebec (*Figure 4a*), an examination of herbarium specimens indicates that White Oak actually occurs sparingly in eastern Ontario. It is found here on dry, exposed, often south-sloping (warmer than normal) ridge tops of Precambrian granitic bedrock on the Canadian Shield or, rarely, in sheltered sites on shale outcrops along the St. Lawrence and Ottawa Rivers (*Figure 4b*). White Oak is regularly seen on dry Canadian Shield outcrops in western Lanark Co. (D.J. White, pers. comm.). This appears to represent the closest point to the Ottawa District for the main Ontario range of the species. Populations near Calabogie and Black Donald Lake in southern Renfrew County (T. Mosquin, pers. comm.) appear to be at approximately the northern limit of its continuous range. Given the apparent abundance of suitable habitat, however, the gap in White Oak records between the Madawaska River and the Pembroke-Petawawa area of central Renfrew

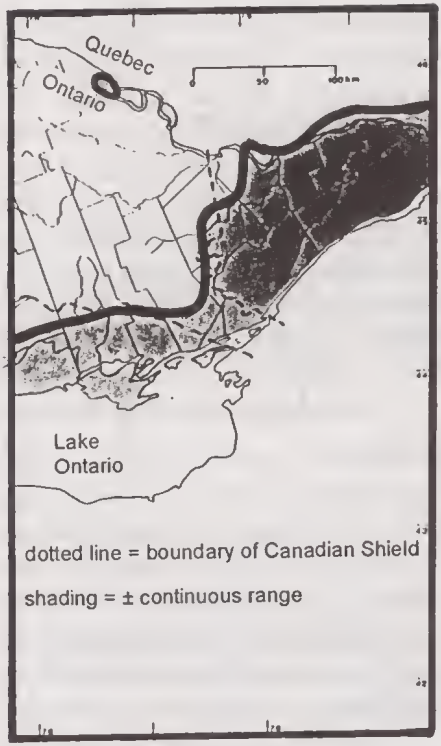


Figure 4a. Presumed distribution of White Oak in eastern Ontario and adjacent Quebec (cf. Hosie 1970; Farrar 1995).

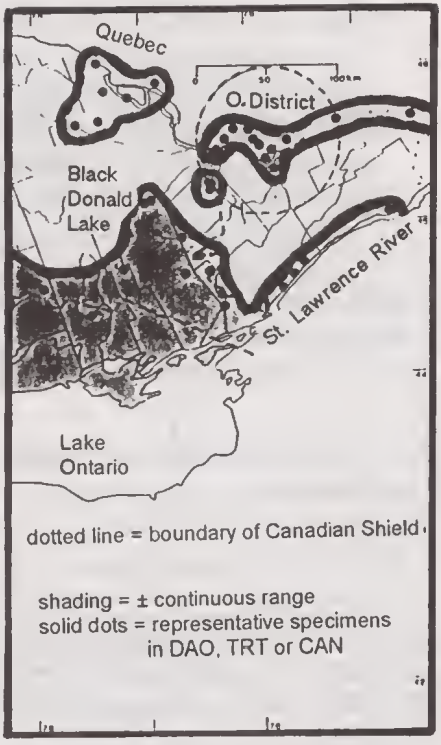


Figure 4b. Determined distribution of White Oak in eastern Ontario and Quebec (this study).

County may at least partially reflect a lack of botanial attention rather than an actual break in the distribution of the species.

Identification of White Oak

A variety of sources provide the major features necessary for the separation of White Oak from Bur Oak (e.g., Hosie 1970, Petrides 1988, Farrar 1995). Both are easily separated from the Ottawa District's other oak, Red Oak, by the sharply-pointed, bristle-tipped lobes of the latter. Features which seem particularly valuable for botanists in the Ottawa Valley for separating White Oak from Bur Oak are highlighted below.

Acorns: The coarsely-fringed caps of Bur Oak acorns are diagnostic (they are *completely smooth* on White Oak). If no acorns are visible on a tree being examined, look for acorns or acorn cap remnants on the ground beneath.

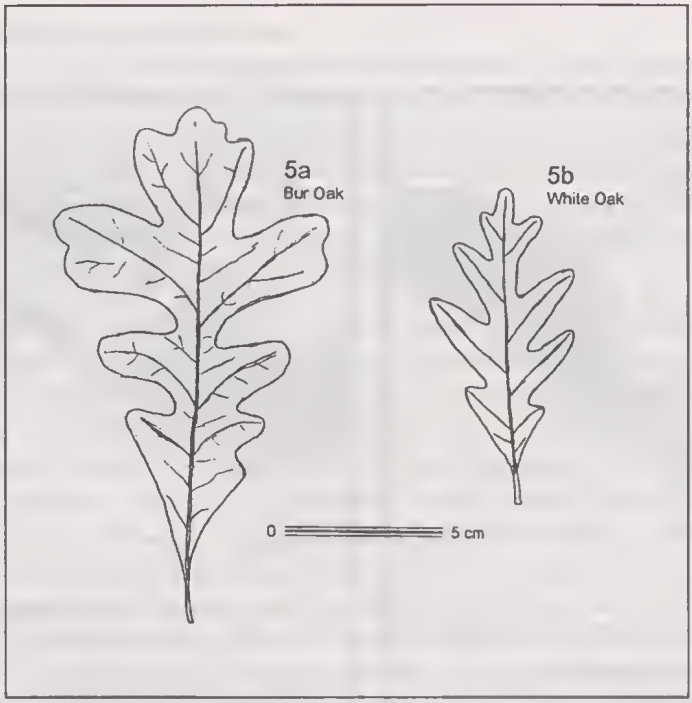


Figure 5. Tracings of mature leafs of Bur Oak (5a) and White Oak (5B). Bur Oak leaf from Cumberland, RMOC (Brunton 11,992, 1994); White Oak leaf from Britannia, Ottawa, RMOC (Brunton and MacIntosh 12,253, 1995)

Leaf Shape: The variability of leaf shape significantly complicates oak identification. It is useful to examine a series of leaves from various areas of the tree to develop an impression of the representative leaf shape. Open-grown Bur Oak typically has deeply and irregularly-lobed leaves, the deepest lobes often almost touching the mid-rib (*Figure 5a*). The depth of lobing is frequently subdued in young growth and in shaded conditions. White Oak typically has *smaller leaves* which have more *shallow* and *evenly formed lobes* (*Figure 5b*). Depending on microclimatic characteristics, however, the latter character varies widely throughout the range of the species (Baranski 1975) and this can cause confusion with the identification of some individuals.

Leaf Colour: The soft, dense pubescence on the lower side of fresh Bur Oak leaves gives them a grayish cast, but this is a variable characteristic that can approach the *hairless underside* condition of White Oak leaves. The autumn colours of the two species are dramatically different, however. The dried fall leaves of Bur Oak are dull orange-brown or yellow-brown while those of White Oak become a dramatic *burgundy red* colour, similar to but darker even than

those of Red Oak. By spring, however, the withered remaining leaves have become a Bur Oak-like yellowish-brown.

Site Preference: In eastern Ontario and western Quebec White Oak typically occurs on *dry, warmer than normal* sites in thin soil over shale or granite (*non-calcareous*) bedrock. It appears to favour particularly well-drained, low-nutrient soils throughout its range (Baranski 1975). Bur Oak, on the other hand, is frequent in low, moist deciduous forests in the Ottawa District and across southern Ontario and Quebec, especially in areas with heavy clay soil. It is often found in swamp forests with White Elm (*Ulmus americana* L.) and Green Ash (*Fraxinus pennsylvanica* Marsh.). The change in forest composition at the Britannia Conservation Area from White Oak-White Pine dominated woodland on the dry, shale-based highland to the Bur Oak-Green Ash dominated woodland in the wet, alluvium-based swamp by Mud Lake is conspicuous, especially in autumn.

There will always be some individuals which don't fit comfortably within the typical profile for either species but these are relatively few and can usually be identified by an examination of the tree(s) over a period of time. The hybrid between White and Bur Oak, *Quercus X bebbiana* Schneider, is not recorded from the Ottawa District but presumably could occur where both species are found together and should look intermediate in all or most morphological characteristics. Oak saplings are notoriously variable in appearance, however, and identification should be attempted with particular care.

Future Possibilities

The discovery of White Oak populations elsewhere in the Ontario portion of the Ottawa District seems highly probable. The dry, granitic outcrops on Morris Island and in the Carp Hills of Kanata and West Carleton seem especially promising, particularly with known populations only a few kilometres away in the Outaouais (*Figure 3*). The shale outcrops along the Ottawa River at Rockcliffe and east towards Cumberland and Rockland are other good bets. Wherever it is discovered next, however, the recent history of White Oak certainly demonstrates that the inquiring naturalist should always be open to new discoveries ... even in the supposedly best-known areas of the Ottawa District.

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The Black Knight

Jennifer Londry

You fly overhead with your ominous call
beckoning me to strain my neck upward,
amidst a dark sky you disappear easily and
it is hard to disinguish your silhouette.

They named you the Raven because you are strong
and like a knight in full armour your challenge
is to roam beneath the ivory clouds and soar
in delicate contrast to your austere cloak.

Drawing by Christina Lewis

The Flora of Ottawa River Emergent Beaches

Daniel F. Brunton and Bruce M. Di Labio

Figure 1. Extensive exposure of vegetated emergent beach at Constance Bay (Site 9).

The water-level of lakes and rivers in eastern Ontario and western Quebec naturally fluctuates during the course of the year. This usually results in a substantial lowering of water levels in late summer and autumn with the dissipation of the accumulation of winter run-off and spring rainfall. A diverse vascular flora thrives in the shallow water and on the extensive open beaches created by these annual down-draws, many of which have developed remarkable structural and ecological adaptations in order to succeed in such an ecologically stressful habitat.

Aquatic and emergent flora are included in the floristic literature of southern Ontario and Quebec (e.g., Dore & Gillett 1955, Lavoie 1984, Morton & Venn 1984, Reznicek & Catling 1989). Few studies, however, focus on the distribution, survival strategies and status of such shore plants (Moore & Keddy 1989a).

The summer of 1987 saw the lowest water levels ever recorded along the lower Ottawa River, exposing significantly larger areas of wet beach than at any time since at least the early 1960s (personal observation). These newly exposed areas had rarely, if ever, been examined botanically (*Figure 1*).

We undertook a floristic survey of emergent beach sites along the Ottawa River in order to catalogue and assess the flora of these emergent shores and to identify some of the principal survival strategies employed by the plants on them. Between June and October 1987 over 40 visits were made to a total of 23 sites along portions of both the Quebec and Ontario shores of the Ottawa River within the Ottawa District (*Figure 2*). The sites examined varied in size, substrate and situation (Table 1). All are submerged for at least part of each year and the nutrient poor substrates of most sites constitute sterile beaches (Moore & Keddy 1989b).

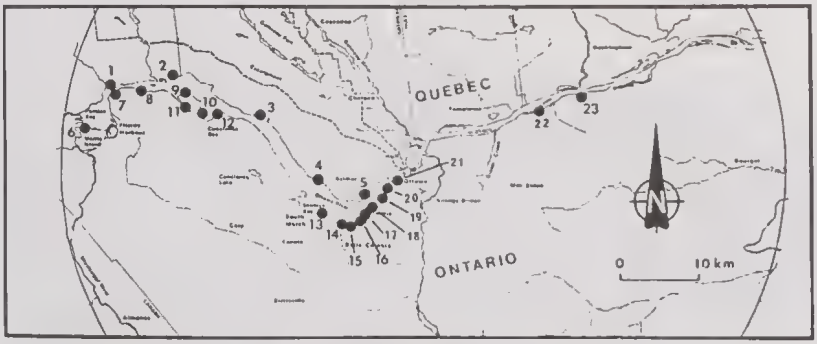

Figure 2. Ottawa River study sites (see text)

Herbarium vouchers were collected for much of the representative flora and for virtually all uncommon taxa. Vouchers were deposited in the TRT Herbarium (Royal Ontario Museum, Toronto), with a duplicate set maintained in the D.F. Brunton personal herbarium in Ottawa. The results of our investigation were published two years later (Brunton and Di Labio 1989a).

Since that time, we have gathered additional information at these sites in low water years. The following, then, represents a review of the original study that incorporates new site information and up-dates the status of the species involved.

Diversity of Species

We found the flora of these emergent beaches to be remarkable. Firstly, diversity is surprisingly high, with a total of 136 taxa noted (Table 2). Secondly, almost half of these taxa (48%) are described as uncommon, sparse or rare by

Gillett & White (1978) and several are considered to be provincially rare in Quebec or Ontario. The diversity of distributionally significant emergent beach flora constitutes a much higher percentage of the total flora than for that of upland areas in the Ottawa District. About 35% of the flora in the Mer Bleue and Stony Swamp Conservation Areas, for example, consists of uncommon, sparse or rare species (Brunton 1982, Brunton 1984).

The locally sparse or rare taxa (12 or fewer records) and/ or provincially rare species (Oldham 1996, Bouchard *et al.* 1983) are briefly described below:

River Quillwort (*Isoetes riparia*) – found uncommonly in sand and gravel and open silty sand in formerly deep water (>0.5 m) sites; locally abundant in quiet river bays elsewhere along the Ottawa River; a species of the Atlantic coastal plain and the eastern slope of the Appalachian Mountains that is uncommon in Quebec (Kott & Britton 1983) and rare in Ontario (Kott 1983, Oldham 1996).

Dodge's Quillwort (*Isoetes X dodgei*) – grows alone or with either or both parent species in populations of varying sizes in silt and sand, usually in formerly deep water situations; abundant at the Britannia Conservation Area (Site 18) where some 30,000 hybrids overwhelm the parent species; otherwise found locally in Canada at scattered sites along the Ottawa River and in lakes in Gatineau and Papineau Counties (Britton & Brunton 1989).

Hickey's Quillwort (*Isoetes Xhickeyii*) – a few plants found in a huge population of *I. echinospora* and *I. X dodgei* with some *I. riparia* and a few *I. macrospora* at Onslow Beach (Site 2) in silty sand over clay in a formerly shallow water (>0.5 m) site; a rare hybrid found in less than a dozen locations in North America (Brunton and Britton 1991).

Shore Horsetail (*Equisetum X litorale*) – one small population in open, wave-washed, formerly shallowly-flooded sand at Quyon (Site 1); a hybrid between *E. arvense* and *E. fluviatile* otherwise known from scattered river shore sites in the Ottawa District.

Floating Bur-reed (*Sparganium fluctuans*) – found uncommonly in open sand in shallow water (seasonally deeper) at Quyon (Site 1); a widespread aquatic of the Canadian Shield of central Ontario and Quebec approaching the southern limit of its range and known elsewhere locally from a few lakes in Gatineau County, in the South March Highlands of Kanata and in the Ottawa River at Gloucester.

Blunt-leaved Pondweed (*Potamogeton obtusifolius*) – a few plants found in silt over sandstone bedrock in a normally deep water site at the Deschênes Rapids, Aylmer (Site 5); a northern species known elsewhere in the Ottawa District

from near Stittsville (Brunton 1995) and an 1893 collection near Wakefield, Gatineau County (Dobson & Catling 1983).

Vasey's Pondweed (*Potamogeton vaseyi*) – found rooted in sand in fresh water in formerly deep water sites; known elsewhere from scattered lakes in Gatineau County and at the south end of Morris Island in the Ottawa River (Dobson & Catling 1983, Brunton 1985); an infrequently though widely recorded species that is rare in Quebec (Bouchard *et al.* 1983) but no longer considered so in Ontario (Pryer & Argus 1987, Oldham 1996).

Horned Pondweed (*Zannichellia palustris*) – locally common in clay substrates in formerly shallow water situations; known elsewhere in the Ottawa Valley from a site along the Rideau River in Ottawa (Brunton and Di Labio 1990); a common maritime and prairie slough species that is very uncommon in southern Ontario (Riley and McKay 1980).

Grass-leaved Water-plantain (*Alisma gramineum*) – locally abundant on clay substrate in formerly shallow water along Britannia Bay (Sites 14-16); known locally elsewhere from the lower Gatineau River; reported as rare in Ontario as a prairie disjunct (Catling 1987), although locally common along parts of the St. Lawrence River.

Fragrant Umbrella-sedge (*Cyperus odoratus*) – uncommon in sand and on sandstone substrates in formerly shallow water sites at Horseshoe Bay (Site 12) and the Britannia Conservation Area (Site 18); unrecorded elsewhere in the Ottawa District; an uncommon southern species no longer considered rare in Ontario (Pryer & Argus 1987).

Elliptic Spike-rush (*Eleocharis elliptica*) – uncommon on emergent sand and sandstone in formerly shallow water sites; found sparingly along the Ottawa River and rarely inland on limestone plains (Brunton 1980, White 1985); a widespread sedge of northern and northwestern distribution.

Intermediate Spike-rush (*Eleocharis intermedia*) – in clean, emergent sand or silty sand; also rarely found along emergent lake and river shores in Gatineau County; a southern sedge approaching the northern limit of its range.

Round Spike-rush (*Eleocharis ovata*) – on silty sand in a formerly shallow water site at Quyon (Site 1); unknown elsewhere in the Ottawa District (Di Labio & Brunton 1989b); a northern sedge of acidic substrates at the southern limit of its range.

Autumn Fimbristylis (*Fimbristylis autumnalis*) – uncommon in silty sand amongst gravel in formerly shallow water sites; known elsewhere in the

Ottawa District from scattered sites along the Ottawa River; a southern sedge approaching the northern limit of its range; considered rare in Quebec (Bouchard *et al.* 1983) and formerly considered rare in Ontario (Pryer & Argus 1987).

River Bulrush (*Scirpus fluviatilis*) – uncommon in shallow water and emergent shores and in silty sand; scattered elsewhere in the Ottawa District in sheltered bays along the Ottawa and Rideau Rivers.

Great Bulrush (*Scirpus lacustris* **var.** *glaucus*) – locally common in silty, calcareous sand at Breckenridge (Site 3); scattered in calcareous rivershore sites and rarely on limestone plains in the Ottawa District.

Alpine Rush (*Juncus alpinoarticulatus*) – on emergent silty sand at Quyon (site 1) and Scrivens Ave (Site 16); rare along the Ottawa River and inland on limestone plains (White 1985, Brunton 1986); a widespread northern species.

Jointed Rush (*Juncus articulatus*) – on emergent silty sand beaches; uncommon along calcareous Ottawa River shores and rarely inland; a widespread species.

Figure 3. This curious and rare beach plant, Creeping Rush (Juncus subtilis) forms spreading, densely branching clumps which are often prostrate or only a few cm tall.

Creeping Rush (*Juncus subtilis*) – locally abundant at Quyon (Site 1) and uncommon at Constance Bay (Site 9); on emergent sand and silty sand in formerly shallow water sites; also reported from Ottawa Beach; previously considered rare in Ontario (Pryer & Argus 1987) and remains rare in southern Ontario; status in Quebec unclear (cf. Bouchard *et al.* 1983).

Knotweed (*Polygonum neglectum*) – on emergent silty sand of formerly shallowly flooded shores at Quyon (Site 1) and Britannia Conservation Area (Site 18); status in Ottawa District unclear; a widespread eastern Canadian species (Wolf and McNeill 1986).

Small Water-lily (*Nuphar microphyllum*) – uncommon in silty sand and silt/sandstone substrate in protected, formerly deep water sites at Britannia; otherwise known locally from a series of 19th century collections from Hull, Gatineau County; a northern species near the southern limit of its range.

Waterwort (*Elatine triandra*) – small population in emergent and slightly flooded sand in a formerly deep, fresh-water site at Morris Island (Site 6); known elsewhere in the middle and lower Ottawa Valley from collections made prior to 1950; rare in Ontario (C. J. Keddy 1987, Oldham 1996).

Water Starwort (*Callitriche hermaphroditica*) – in shallow, fresh, flowing water over shale bedrock at Remic Rapids (Site 21); otherwise known from scattered sites along the Ottawa River.

Dwarf St. John's-wort (*Hypericum boreale*) – on emergent rocky shale shore at Britannia Conservation Area (Site 18); scattered elsewhere in the Ottawa District on acid lakeshores in Gatineau County and along the Ottawa River shore (Brunton 1985).

Lance-leaved Violet (*Viola lanceolata*) – in wet, acidic sand amongst gravel and bedrock crevices on formerly shallowly flooded shores at Horseshoe Bay (Site 12) and Britannia Conservation Area (Site 18); also known from a number of emergent, rocky lake shores in Gatineau County and cobble beaches along the Ottawa River.

Golden Hedge-hyssop (*Gratiola aurea*) – in silt and sand amongst boulders and gravel in formerly shallow water sites; known elsewhere in the Ottawa District from scattered sites along the Ottawa River; a southern species approaching the northern limit of its range; considered rare in Quebec (Bouchard *et al.* 1983) and Ontario (Oldham 1996).

Shoreweed (*Littorella americana*) – locally abundant in emergent silty sand in protected river bays at Horseshoe Bay (Site 12) and Britannia Conservation Area (Site 18); unknown elsewhere in the Ottawa District (Brunton & Di Labio 1988); widespread aquatic approaching the southern limit of its range and formerly considered rare in Ontario (Pryer & Argus 1987, Bassett 1973).

While the flora of the Ottawa River beaches was found to be diverse in native taxa, few alien species were observed. We found only 14 introduced taxa, 10%

of the total flora. The low percentage of aliens on infertile beaches contrasts strikingly with that of upland environments in southern Ontario where non-native taxa typically rank between 20% and 27% of the total flora (Beschel *et al.* 1970, Morton & Venn 1984, Reznicek & Catling 1989). While we would not wish to belittle the serious detrimental impacts of species like Frogbit (*Hydrocharis morsus-ranae*) and Purple Loosestrife (*Lythrum salicaria*) the diversity of the native flora of emergent shores along the Ottawa River appears relatively little affected by 'weeds.'

Geographic Affinity

Approximately 60% of the emergent beach flora (82 species) are found over a wide area of northeastern North America and are well within their normal ranges in the Ottawa District. The relative long term stability of the emergent beach environment, one which has changed little since the end of the post-glacial Champlain Sea era in comparison to the physical changes of upland habitats, may help to explain why so many widespread species are present.

The next largest group (19% - 25 species) consists of northern taxa which are typically found in the boreal regions of Ontario and Quebec (12% - 16 species), or Atlantic Canada (7% - 9 species). The cool microclimate of the beach sites presumably favours northern elements to some degree.

Species with more typically southern distributions (15 species) make up less than 11% of the emergent beach flora.

Ecological Characteristics

The vast majority of emergent species we observed are long-lived and are adapted to frequent and prolonged flooding. Some produce leaves and stems each year from perennial roots or rhizomes but typically will not flower or set seed unless they become exposed. Examples of this group include *Hypericum boreale, Myriophyllum tenellum, Littorella americana* and *Gratiola aurea*. Other species have similar characteristics but will set seed in shallow water. These include *Zannichellia palustris, Elatine triandra* and *Callitriche verna. Zosterella dubia* takes on very different appearances in emersed and emergent states, producing open, cross-pollinated flowers when exposed and closed, self-pollinated flowers when submerged (Voss 1972).

Many species are adapted to completely underwater life cycles. They leaf out, produce flowers and set seed on a regular, usually annual basis. Additional light and warmer temperatures offered by shallower water may enhance this development. Examples include *Potamogeton* (most species), *Isoetes* (all taxa), *Elodea canadensis* and *Vallisneria americana.*

Being evergreen may be an important survival characteristic for a number of species, particularly in those sites where nutrient-poor sand substrate limits the rate of growth (P.A. Keddy, personal communication). Species observed that may benefit from that characteristic include *Eriocaulon septangulare, Juncus pelocarpus, Alisma gramineum, Myriophyllum tenellum, Sagittaria graminea* and *Ranunculus reptans.*

Species capable of withstanding the combination of prolonged flooding and sterile substrates are called 'stress tolerators' (Day *et al.* 1988). Such plants would have an obvious advantage at some of these Ottawa River sites. The group includes *Isoetes echinospora, Myriophyllum tenellum, Eriocaulon septangulare, Littorella americana, Juncus pelocarpus* and *Isoetes X dodgei* (Boston and Adams 1987). Other species are not as successful in emergent beach situations as the stress tolerators or the evergreen species and appear to require regular disturbance of the site to enable them to compete effectively. Such agents as ice scouring, wave erosion and other physical impacts (cf. Lemke & Keddy 1988; Day *et al.* 1988) help to prepare sites for these species.

Figure 4. Wild rice (Zizania palustris).
Waterfowl are likely a major distributor of wild rice to a growing number of quiet, freshwater sites along the Ottawa River and elsewhere in the Ottawa District.

Examples of such taxa include *Cyperus bipartitus, Ranunculus sceleratus, Eleocharis intermedia, Populus deltoides, Isoetes X dodgei* and *Zizania palustris.*

A number of species found on these Ottawa River beaches cannot survive prolonged flooding. They are upland or shoreline annuals, the seeds of which become established on the newly exposed substrate of emergent beaches. They develop quickly and produce seed before the water level rises again. At least some of this seed will presumably be moved by wind, animals or other physical agents to higher ground before reflooding. A number of species that are now common weedy plants of disturbed upland sites may well have depended on seasonally lowered beach areas for their survival before recent human activity 'improved' the habitat. Such species include *Echinochloa wiegandii, Panicum capillare* and *Polygonum neglectum.*

Although ungerminated seeds were not looked for in beach substrate, we found no evidence of the dense seedling populations which also are known to indicate the existence of seed banks. Seed banks have been found to be important in maintaining plant populations on some emergent lake beaches (Keddy & Reznicek 1986). This may indicate that while the lowest water levels along the Ottawa River are comparable to those of well-known Muskoka seed bank lakes (Keddy 1981, Keddy & Reznicek 1982), such levels may be too infrequent to offer opportunities even for plants adapted to withstand 30 or 40 year periods of inundation.

The flora of these emergent wet beaches includes a disproportionately large number of regionally and provincially rare species. Moore & Keddy (1989a) have established that infertile wet beaches support a higher species richness and a larger number of rare species than do fertile wetlands, such as marshes. They also conclude that the greater susceptibility of these infertile habitats to pollution and physical impact argues for the need for better environmental protection and conservation management in this distinctive and restricted habitat. Our assessment along the Ottawa River certainly leads us to support and endorse greater attention and concern to be focused on these important wetland areas.

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Table 1

Emergent Vascular Flora Study Sites along the Ottawa River (See figure 2)

QUEBEC

1. Quyon Beach, Onslow Township, Papineau Co. [31F/9 042409]. Extensive, heavily vegetated, moderately sloping sand and silty sand beach downstream of a large boat pier.

2. Onslow Beach, Onslow Township, Papineau Co. [31 F/9 125424]. Extensive, gently sloping silty sand beach behind a protective sand spit with areas of sparse to dense aquatic and emergent vegetation.

3. Breckenridge Bay, Onslow Township, Papineau Co. [31 G/5 234373]. Sparsely vegetated, gently sloping clay beach in a quiet bay.

4. The Cedars, Aylmer, Gatineau Co. [31 G/5 322277]. Narrow, sparsely vegetated, moderately sloping limestone bedrock and sand beach exposed to the main river flow.

5. Deschênes Rapids, Aylmer, Gatineau Co. [31 G/5 374255]. Narrow, sparsely vegetated, silt and sandstone bedrock beach in a side bay downsteam of major rapids.

ONTARIO

6. Morris Island, Fitzroy Township, RMOC [31 F/8 005347]. Narrow, sparsely vegetated, moderately sloping sand and limestone bedrock beach amongst small islands.

7. Mohr's Landing, Fitzroy Township, RM0C [31 F/9 405404]. Narrow, sparsely vegetated, moderately sloping sand and clay beach downstream of small boat pier.

8. McLaren's Landing, Torbolton Township, RMOC [31 F/9 089404]. Extensive, moderately vegetated, gently sloping sand and silt beach in a quiet bay.

9. Constance Bay North, Torbolton Township, RMOC [31 F/9 135399].Large, moderately to heavily vegetated, almost flat pure sand beach.

10. Constance Bay South, Torbolton Township, RMOC [31 F/8 164364]. Large, moderately vegetated, gently sloping to almost flat sand and silty sand beach.

11. Buckham Bay, Torbolton Township, RMOC [31 F/8 145379]. Extensive, sparsely vegetated, gently sloping sand beach in a quiet bay.

12. Horseshoe Bay, Torbolton Township, RMOC [31 F/8 179373]. Large, densely vegetated, gently sloping sand and clay beach with granite cobble margin, in quiet, shallow bay.

13. Beatty Point, Nepean, RMOC [31 G/5 320234]. Narrow, sparsely vegetated, gently sloping limestone bedrock and silt beach exposed to main river flow.

14. Stillwater Creek mouth, Nepean, RMOC [31 G/5 351231]. Extensive, sparsely vegetated, gently sloping limestone bedrock, silty sand and granite cobble beach in quiet bay.

15. Ottawa Beach, Haydon Park, Nepean, RMOC [31 G/5 361223]. Vast moderately to sparsely vegetated, gently sloping to almost level sand and clay beach.

16. Scrivens Avenue Beach, Ottawa, RMOC [31 G/5 369230]. Vast, sparsely to moderately vegetated, gently sloping to almost level clay beach.

17. Britannia Park, Ottawa, RMOC [31 G/5 371236]. Extensive, moderately to sparsely vegetated, almost level sand and silty sand beach with scattered shale and sandstone outcroppings downstream of earth-filled pier.

18. Britania Conservation Area, Ottawa, RMOC [31 G/5 384247]. Narrow, densely vegetated, gently sloping shale and sandstone cobble beach in quiet river bay below rapids downstream of creek outlet.

19. Deschênes Lookout, Ottawa, RMOC [31 G/5 389254]. Narrow, moderately sloping, sparsely vegetated sandstone and shale bedrock beach on downstream side of gravel spit.

20. Kitchissippi Lookout, Ottawa, RMOC [31 G/5 403271]. Narrow, moderately sloping, sparsely vegetated sand and shale bedrock beach exposed to main river flow.

21. Remic Rapids, Ottawa, RMOC [31 G/5 415283]. Small, gently-sloping, sparsely vegetated sand and shale bedrock and silt beach in bay below large rapids.

22. Petrie Island, Cumberland, Russell Co. [31 G/11 610387]. Narrow, moderately sloping, sparsely vegetated sand beach along island edge in river channels.

23. M.O.T. Picnic Area, Cumberland, Russell Co.[31 G/11 662403]. Narrow, steeply sloping, sandstone bedrock and silty clay, sparsely vegetated beach exposed to the main river flow.

Table 2

Species Observed at Ottawa River Study Sites. The numbers following the species name refer to the observation and/or collection sites (see Table 1); Bold face indicates voucher specimen(s) obtained at this site; ** indicates introduced species.

ISOETACEAE
Isoetes X dodgei Eat.: **1;2;7;8;12;18**
Isoetes echinospora Dur.: **1;8;10;12;18;19; 20**
Isoetes X hickeyi Taylor & Luebke: **2**
Isoetes macrospora Dur.: **2;12**
Isoetes riparia Engelm.: **1;2;6;8;12;18**

EQUISETACEAE
Equisetum X litorale Kuhl.: **1;8**

ASPLENIACEAE
Onoclea sensibilis L.: 19

TYPHACEAE
Typha latifolia L.: 15;17

SPARGANIACEAE
Sparganium chlorocarpum Rydb.: 18;21
Sparganium fluctuans (Morong) Robins.: 1

POTAMOGETONACEAE
Potamogeton epihydrus Raf.: 1;2;3;11;12
Potamogeton gramineus L.: 3;9;11;12;15;17
Potamogeton natans L.: 6
Potamogeton obtusifolius Mert. & Koch: **5**
Potamogeton perfoliatus L.: 1;2;3;4;7;**9**;12;15;18
Potamogeton richardsonii (A. Benn.) Rydb.:1;8;9;17;18
Potamogeton robbinsii Oakes: **6;7;12;18**
Potamogeton spirillus Tuckerm.: **5;6;8;** 17;18;19;20
Potamogeton vaseyi Robbins: **2;6;18**;19
Potamogeton zosteriformis Fern.: 18;22

ZANNICHELLIACEAE
Zannichellia palustris L.: **14;15;16**

NAJADACEAE
Najas flexilis (Willd.) R.& S.: 1;8;9; 11;16;17;18;22

ALISMATACEAE
Alisma gramineum Gmel.: **15**
Alisma triviale Pursh: 1;3;7;8;12;13;14;15;16;17;18;19;21;22;23
Sagittaria graminea Michx.: 1;4;5;7;**8**;9;12;17;18;19;20;21;22;23
Sagittaria latifolia Willd.: all sites
Sagittaria rigida Pursh: 16;17;**18**

HYDROCHARITACEAE
Elodea canadensis Michx.: 1;6;7;8; 9;12;15;16;17;18;22
***Hydrocharis morsus-ranae* L.: 17;22
Vallisneria americana Michx.: 1;7;8;9;10;12;**15**;16;17;18;19;23

POACEAE
Agrostis stolonifera L.: 21
***Digitaria ischaemum* (Schreb.)Muhl.: 11;17
***Echinochloa crusgalli* (L.)Beauv.: 1
Echinochloa wiegandii (Fassett) McNeill & Dore: 11;16;17;18;19
***Eragrostis minor* Host: 17
***Eragrostis pectinacea* (Michx.) Nees: **2**;10;18
Glyceria borealis (Nash) Batch.: 1;11;18
Leersia oryzoides (L.) Sw.: 12;18
Panicum capillare L.: 1;7;12;15;17
Phalaris arundinacea L.: 10;12;18
Setaria glauca (L.) Beauv.: 18
Spartina pectinata Link: 8;15;17;18;21
Zizania palustris L.: 1;9;12;**15**;16

CYPERACEAE
Carex lacustris Willd.: 18
Carex lenticularis Michx.: 18
Cyperus aristatus Rottb.: 1;2;7;10;12;16
Cyperus bipartitus Torr.: 1;7;11;12;17
Cyperus diandrus Torr.: 1;3;7;**18**
Cyperus odoratus L.: **12;18**
Cyperus strigosus L.: 1;7;**18**
Dulichium arundinaceum (L.) Britt.: 16
Eleocharis acicularis (L.) R.& S.: all sites
Eleocharis elliptica Kunth: 1;17
Eleocharis erythropoda Steudl.: 1;2;7; 12;20;21
Eleocharis intermedia (Muhl.): Schultes 1; **15;16**
Eleocharis obtusa (Willd.) Schultes: **1;16;22**
Eleocharis ovata (Roth) R.& S.: **1**
Eleocharis palustris (L.) R.& S.: all sites
Fimbristylis autumnalis (L.) R.& S.:
Scirpus cyperinus (L.) Kunth: 1;17
Scirpus fluviatilis (Torr.) Gray: 1;7;8
Scirpus lacustris L. var. *condensatus* Peck: all sites
Scirpus lacustris L. var. *glaucus* (Sm.) Böck: 3
Scirpus pungens Vahl.: 1;9;10;12;13; 14;15;16;17;18;19;20;21;22;23

LEMNACEAE
Lemna minor L.: 15;18
Lemna trisulca L.: 16;19;22

ERIOCAULACEAE
Eriocaulon septangulare With.: 1;3;8; 10;12;18

PONTEDERIACEAE
Pontederia cordata L.: 7;8;12;16;18
Zosterella dubia (Jacq.) Small: 2;**5**;12;13; **15**;16;17;**22**

JUNCACEAE
Juncus alpinoarticulatus Chaix. ex Vill.: **1;16**
Juncus articulatus L.: 1;9;11;16;21
Juncus brevicaudatus (Engelm.) Fern.: 9;11;16
Juncus bufonius L.: 1;15;22
***Juncus compressus* Jacq.: 21**
Juncus dudleyi Wieg.: 17
Juncus effusus L.: 7;18
Juncus filiformis L.: 3;10;12
Juncus nodosus L.: 1;10;20;21
Juncus pelocarpus E. Mey.: 1;2;3;7;**9**;10;11;12;16;17;19
Juncus subtilis E. Mey.: **1;9**;15?

IRIDACEAE
Iris versicolor L.: 18

SALICACEAE
Populus deltoides Marsh.: 1;7;15;16;17;18

POLYGONACEAE
Polygonum hydropiper L.: 18
Polygonum lapathifolium L.: 7;17;21
Polygonum neglectum Bess.: 1;**18**
Polygonum pensylvanicum L.: 1;17;18
***Polygonum persicaria* L.: 1;7;12;17**
Rumex verticillatus L.: 18

CHENOPODIACEAE
***Chenopodium glaucum* L.: 16**

MOLLUGINACEAE
***Mollugo verticillata* L.: 1**

NYMPHAEACEAE
Nuphar microphyllum Morong: **17;18**
Nuphar variegatum Engelm.: 12;16;17
Nymphaea odorata Ait.: 8;10;16;22

RANUNCULACEAE
Ranunculus aquatilis L.: 1;7;10;16;18
Ranunculus reptans L.: 1;3;6;8;12;18;19;21
***Ranunculus sceleratus* L.: 1**

BRASSICACEAE
***Erysimum cheiranthoides* L.: 18**
Rorippa palustris (L.) Bess. (*s.l.*): 7;12;17;18

ROSACEAE
Potentilla anserina L.: 21

EUPHORBIACEAE
Acalypha rhomboidea Raf.: 18
Euphorbia maculata L.: 18;21

CALLITRICHACEAE
Callitriche hermaphroditica L.: **21**
Callitriche verna L.: **1**

BALSAMINACEAE
Impatiens capensis Meerb.: 1;18

HYPERICACEAE
Hypericum boreale (Britt.) Bickn.: **18**
Hypericum ellipticum Hook.: 12
Hypericum majus (Gray) Britt.: 1

ELATINACEAE
Elatine triandra Schkr.: **6**

VIOLACEAE
Viola lanceolata L.: 12;18

LYTHRACEAE
***Lythrum salicaria* L.: all sites

ONAGRACEAE
Epilobium ciliatum Raf. (*s.str.*): 18
Ludwigia palustris (L.) Ell.: 1;7;12

HALORAGIDACEAE
Myriophyllum alterniflorum DC.: 1;6; 7;8;11;17;18
Myriophyllum sibericum Komarov: 1;2; **6**;7;8;17;18
Myriophyllum tenellum Bigel.: **1**;2;3;4; **8**;**9**;10;12;**20**;**21**

APIACEAE
Cicuta bulbifera L.: 1;17
Sium suave Walt.: 1;17;21

PRIMULACEAE
Lysimachia terrestris (L.) BSP.: 17

MENYANTHACEAE
Nymphoides cordata (Ell.) Fern.: 1;2;**8**;10;11

LAMIACEAE
Lycopus americanus Muhl.: 1;12
Lycopus uniflorus Michx.: 7
Mentha arvensis L.: 6;18

SCROPHULARIACEAE
Gratiola aurea Pursh: **9**;**12**;**18**
Lindernia dubia (L.) Penn.: 1;18
Mimulus ringens L.: 12;18;21

LENTIBULARIACEAE
Utricularia vulgaris L.: 6

PLANTAGINACEAE
Littorella americana Fern.: **12**;**18**
(**?)Plantago major L.: 7;17;18

ASTERACEAE
Ambrosia artemisiifolia L.: 1;18
Aster lateriflorus (L.) Britt. (*s.l.*): 12
Bidens beckii Torr.: **1**;**18**;**19**
Bidens cernua L.: 1;2;7;12;16;17;18
Bidens frondosa L.: 1;7;12;17;18
Euthamia graminifolia (L.) Nutt.: 18
Gnaphalium uliginosum L.: 1;7;17
***Taraxacum officinale* Weber: 1;12;17;18

Birds of the Fletcher Wildlife Garden and Vicinity

Christine Hanrahan

The Downy Woodpecker is a year-round resident at the FWG. Photo by Tony Beck

If you haven't yet discovered the pleasure of birding the Fletcher Wildlife Garden (FWG), perhaps this article will entice you to visit. Although only 16 acres in in size, the Garden offers some great birding combined with the adjacent Arboretum, the Rideau Canal and the Central Experimental Farm. The mix of habitat ensures a diversity of bird life, and all this in the middle of the city!

To help you locate the different habitats, pick up an FWG brochure, featuring a trail map, from the dispenser in front of the Interpretive Centre.

The FWG consists of a small woodlot with mature deciduous and coniferous trees and abundant understory plants, a pond heavily lined with cattails, a lushly vegetated and steep-sloped ravine with a stream running through, numerous stands of tangled thickets, and open weedy fields. In addition, we operate two feeding stations in the winter, one in the Model Backyard Garden (MBG), and the other, an OFNC feeder by the old woodlot.

Accounts of habitat loss are too frequent these days, and we know the negative impact this is having on bird populations throughout the Americas (and indeed, the world). Habitat restoration and re-creation occurs less frequently and on a smaller scale, but the very fact of its occurrence is cause for hope. The FWG is one place in this city where habitat is actually being restored and re-created, not destroyed.

Our bird list, which as of May 1997 stands at 110 species, was started by the late Bill Holland, well-known to Club members and visitors to the Garden. The majority of birds on this list are the result of Bill's observations. Because of this, and because of Bill's unflagging support and enthusiasm for the FWG, we thought it only fitting to name the trail through the garden the *Bill Holland Trail* (see *T&L* 30(4):131).

The species on the FWG checklist include birds observed within the garden, the area immediately adjacent, and flying overhead. Since I began collecting bird data for the garden, I have confined my observations to the Fletcher Garden only, and therefore all new sightings since 1995 have been within the garden. We are continually updating the list and welcome your input of birds observed within the FWG. Please report your sightings to me at 798-1620.

Some bird species occur year-round in the Ottawa area, while others are migrants, summer breeders or winter visitors. This article is an overview of some of the birds you can expect to see in the different seasons at the FWG. An up-to-date species list follows the text.

All Year: Many of the birds that you will see at the Garden are "resident" species, found throughout the year. These include Downy Woodpeckers, Black-capped Chickadees, European Starlings, Northern Cardinals and House Finches. Keep an eye out for other resident species.

Spring: Songbirds begin arriving in April, but May is definitely the month to look for migrants. Try to get out early and spend time scanning the different habitats in the garden. The ravine is a great place to observe birds and there are two good vantage points. The first is just south-west of the Interpretive Centre where you get a bird's eye view (so to speak) into the canopy of several large crab apple trees. This is always a favourite spot for Cedar Waxwings, American Robins, Northern Cardinals and other songbirds. The second viewpoint is across the ravine where the gravel track begins to slope downwards towards the Arboretum. Standing on the edge of the ravine, one gets an excellent look down into dense thickets where Fox Sparrows and White-throated Sparrows scratch in the leaf litter for food, and where Gray Catbirds perch. Look for Rose-breasted Grosbeaks, Warbling and Solitary Vireos, and

Baltimore Orioles in the trees. Yellow Warblers are present throughout spring and summer.

The old woodlot offers a chance to see Veeries and Hermit Thrushes. Least Flycatchers call peristently, and Eastern Wood-Pewees, Great Crested Flycatchers, and Warbling and Red-eyed Vireos are fairly common. A good variety of warblers including Magnolia, Chestnut-sided and the American Redstart can also be found during peak migration times. The slope below the woodlot, with its sumac thicket and tangle of wild raspberry opening out to meadow, can yield Brown Thrashers, Gray Catbirds and Eastern Phoebes. Only the catbirds remain during the summer and almost certainly breed here.

In late April to early May the open field on the southern edge of the woodlot is sometimes aswirl with Barn, Cliff, and a few Northern Rough-winged Swallows, feeding low over the grass.

The big cattail-fringed pond near the baseball diamond is a favourite spot for Mallards, Song Sparrows, Red-winged Blackbirds, and the occasional Great Blue Heron. A Spotted Sandpiper is sometimes found teetering along the pond's edge, and Tree Swallows swoop across the water. Just above the pond in the grassy fields, Savannah Sparrows occur along with an occasional Meadowlark or Bobolink pausing briefly en route to breeding grounds elsewhere in the region.

The spring of 1997 was particularly rewarding with five new species added to our list. One sunny April afternoon, I had the pleasure of watching a pair of Eastern Bluebirds check out the fields around the pond, and later saw a Golden-crowned Kinglet in the old woods. In late March, a Northern Shrike visited the Garden for several days, dividing its time between the thickets around the open field and the area near the ravine. Pine Siskins, also found in March, were another new addition to our list. May began with an auspicious sighting of a Northern Mockingbird flying across the trail by the butterfly meadow. It allowed me an excellent view once it settled into a crab apple tree. All of this proves again the excitement of spring birding when every day brings something new. I think it also proves how much more bird-friendly the Garden is becoming now that the vegetation is allowed to grow and flourish - *naturally*.

Other species which can be observed in or from the Garden include Killdeer, Purple Martin, Chimney Swift, Ruby-throated Hummingbird, and Common Grackle. Turkey Vultures occasionally circle overhead in April.

Summer: Birds migrate north from the tropics looking for secure nest sites and food supplies in order to rear their young. Many of the birds observed during migration nest in the Ottawa region, although not necessarily in the Garden

Eastern Kingbird. Photo by Tony Beck.

where for many species the habitats are too limited. But while these species may not breed in the Garden, they clearly find it a valuable stop-over point for feeding and resting. Other backyard gardens designed to encourage wildlife would also provide some of these same benefits.

We have placed many nest boxes around the Garden. Those by the pond are used by Tree Swallows, while others are home to the ubiquitous House Sparrows. Barn Swallows nest under the eaves of buildings (including one year, the Interpretive Centre). For the last couple of years a pair of American Kestrels have successfully raised young in a nest box on the barn by the new woodlot. These birds remain in the garden for a good part of the year and are often seen perched on the high fence around the baseball diamond.

Other species nesting in the Garden are Northern Cardinal, American Robin, Yellow Warbler, and Baltimore Oriole. We suspect nesting for Northern Flicker, Gray Catbird, Song Sparrow, and Red-winged Blackbird. Nesting evidence is revealed when the leaves drop from the trees and shrubs. We are just beginning to collect data on breeding birds in the FWG and we welcome your help in compiling this information.

A very visible species throughout the summer is the Eastern Kingbird. Last summer (1996) a pair were often found perched on dead flower stalks or small trees in front of the Interpretive Centre, or across the ravine in the open field. Judging from their summer-long presence and their behaviour when other birds came too close, we are quite certain they nested in the Garden, but no conclusive evidence was found.

Fall: There is a lot of activity from late August through September and this is a very rewarding time for the birder in the Garden. Summer visitors are replaced by migrants and overwintering birds. Swallows begin flocking in large numbers,

and warblers, vireos and others arrive and fuel up for the long journey south. Careful scanning of thickets and the old woodlot may produce Cape May, Northern Parula, Nashville and Palm Warblers, among others. The thickets encircling the weedy field just west of the old woodlot are usually very productive in the fall and hold a variety of passerines. Clumps of thistles anywhere in the Garden attract sparrows and American Goldfinches to feed on their seeds. Dark-eyed Juncos and Tree Sparrows now appear, and both Sharp-shinned and Cooper's Hawks may be seen hunting the area. Look for Water Pipits in the cultivated fields above the pond and elsewhere on the Farm.

Winter: When the weather shifts to snow and falling temperatures, flocks of winter finches and northern owls may appear in our region. In the FWG look for Pine Grosbeaks which relish the fruit of mountain ash and crab apples. Other winter finches found here include Common Redpolls, Evening Grosbeaks, and Snow Buntings.

On particularly cold days the feeders are busy spots attracting Black-capped Chickadees, White-breasted Nuthatches, Northern Cardinals, European Starlings and Mourning Doves. (During November and December 1996, at least 16 Mourning Doves were at the feeder in the Backyard Garden.) Bohemian Waxwings sometimes descend on fruit-bearing shrubs and trees around the FWG. An unusual sighting during a recent Christmas Bird Count was a Yellow-rumped Warbler at the old woodlot feeder.

Thickets in the ravine provide warm shelter for birds and during the last few winters a couple of robins overwintered there. Common burdock (*Arctium minus*), a much maligned plant, does at least provide food for some seed-eating species. One very cold winter day I watched a large flock of House Finches (about 80 birds) and a dozen or so American Goldfinches feeding steadily and avidly on a large clump of burdocks by the ravine. I was a bit concerned that one or more of them might get entangled in the plant; burdock is known for trapping small birds (See *T&L* 19(4):208-211). All went well and, after what I can only describe as a feeding frenzy, the birds flew off.

As most birders know, the Experimental Farm in winter is a good place to look for Gyrfalcons and Peregrine Falcons. The manure pile just off Morningside Lane has produced some interesting birds in previous winters. When you have finished birding the FWG, why not cross the road and continue with a walk around the farm roads? A good day's birding can be had by combining the FWG with the Arboretum and the Farm. Please let us know what you see.

Bird List for the Fletcher Wildlife Garden

(110 species observed at the Garden and in the immediate vicinity.)
* denotes breeding in the Garden confirmed
*? breeding suspected but not yet confirmed

Pied-billed Grebe
Double-crested Cormorant
American Bittern
Great Blue Heron
Green Heron
Canada Goose
Wood Duck
American Black Duck
Mallard*
Blue-winged Teal
Common Merganser
Turkey Vulture
Sharp-shinned Hawk
Cooper's Hawk
Red-shouldered Hawk
Red-tailed Hawk
American Kestrel*
Gray Partridge
Killdeer
Spotted Sandpiper
Ring-billed Gull
Herring Gull
Great Black-backed Gull
Rock Dove
Mourning Dove*?
Black-billed Cuckoo
Great Horned Owl
Common Nighthawk
Chimney Swift
Ruby-throated Hummingbird
Belted Kingfisher
Downy Woodpecker*?
Hairy Woodpecker
Northern Flicker*?
Pileated Woodpecker
Eastern Wood-pewee
Least Flycatcher
Eastern Phoebe
Great Crested Flycatcher
Eastern Kingbird*?
Purple Martin
Tree Swallow*
Northern Rough-winged Swallow
Cliff Swallow
Barn Swallow*
Blue Jay
American Crow
Common Raven
Black-capped Chickadee*?
Red-breasted Nuthatch
White-breasted Nuthatch
Brown Creeper
Golden-crowned Kinglet
Ruby-crowned Kinglet
Eastern Bluebird
Veery
Gray-cheeked Thrush
Hermit Thrush
American Robin*
Gray Catbird*?
Northern Mockingbird
Brown Thrasher
Water Pipit
Bohemian Waxwing
Cedar Waxwing
Northern Shrike
European Starling*
Solitary Vireo
Warbling Vireo
Red-eyed Vireo
Nashville Warbler
Northern Parula
Yellow Warbler
Chestnut-sided Warbler
Magnolia Warbler
Cape May Warbler
Yellow-rumped Warbler
Black-throated Green Warbler
Palm Warbler
Blackburnian Warbler
Black-and-white Warbler
American Redstart
Common Yellowthroat
Scarlet Tanager
Northern Cardinal*
Rose-breasted Grosbeak
American Tree Sparrow
Chipping Sparrow
Savannah Sparrow
Fox Sparrow
Song Sparrow*?
Swamp Sparrow
White-throated Sparrow
White-crowned Sparrow
Dark-eyed Junco
Snow Bunting
Bobolink
Red-winged Blackbird*?
Eastern Meadowlark
Common Grackle
Brown-headed Cowbird*?
Baltimore Oriole*
Pine Grosbeak
Purple Finch
House Finch*?
Common Redpoll
Pine Siskin
American Goldfinch*?
Evening Grosbeak
House Sparrow*¤

The 1997 Algonquin Odyssey

Jack Romanow

The Club's annual voyage in search of the elusive Spruce Grouse and *Alces alces*, the giant deer (a.k.a. moose) took place this year on the weekend of April 26 and 27. The departure on Saturday under beautiful sunny skies was clouded only by the news that our equally legendary leader, Stewart MacDonald, was unable to take the helm as originally planned. In typical fashion, Colin Gaskell had the emergency well in hand and our small caravan of thirteen(!) avid OFNseers took to the road.

Colin and his brother Rod, who between them in recent years have spent more time in Algonquin Park than they care to admit, boldly forged on and the rest of us followed. All day Saturday the elusive Spruce Grouse lived up to that reputation but *Alces alces* was everywhere to be seen (well, almost). By the end of the weekend the group had encountered sixteen moose! Virtually all of the lakes were still iced over and snow was knee-deep in the dense woods. Several unpaved access roads were still closed due to the lingering snow cover and, in certain points, washouts. The vestiges of Old Ma Winter were still present even at this late stage in April. Nonetheless, the group managed to log sixty-three species of birds and eight species of mammals in the Park, thanks to the keen ears and sharp eyes of our substitute leader.

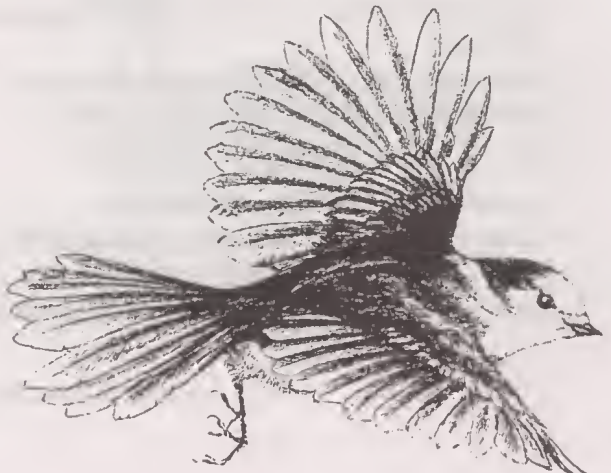
Saturday evening, following the traditional and unparalleled hamburger steak dinner in Whitney, we set out to locate woodcock and owls. Before the first woodcock ever buzzed, we spotted a Merlin high atop a white pine keeping a watchful eye on this magical park in accompaniment with several Hermit Thrushes that called and sang their enthralling songs in the surrounding woods. And then it happened.

"PEEENT!" "PEEENT!" An American woodcock emerged to entertain the group with his buzzes and madcap, zigzagging, twittering, bumblebee-like flights of fancy. We even managed to train our flashlights on one particular bird as he performed his pre-flight calls. Later on, a Saw-whet Owl could be heard calling as a brilliant array of stars began to appear over head. Even the comet Hale-Bopp was clearly visible above the horizon. A long day in Algonquin had left everyone sufficiently bushed and we retired to our respective rooms while visions of Spruce Grouse danced in our heads.

Early the next morning, Colin, Rod and Jack headed out at 5:00 a.m. to witness a spectacular Algonquin rise. As dawn broke, we tried hooting and howling and were rewarded with responses from four individual Barred Owls and two wolves. A brief prebreakfast jaunt up the Opeongo Lake Road produced a classic look at a male Black-backed Woodpecker and several Boreal Chickadees.

The three amigos hurried back to town to join the rest of the group for a quick breakfast and then the group spruced up for another Spruce Grouse foray. As our convoy entered the Park, we encountered yet another "highway moose" and shortly thereafter, a characteristically inquisitive Red Fox that was scavenging by the roadside. He came close but we didn't bite! We took some photos, left only our footprints and continued on our grouse quest. A little later, as Colin tried tirelessly once again to draw in the elusive Spruce Grouse, I heard a rapid flutter over my right shoulder and knew instinctively that the group's ultimate goal had been achieved. A resplendent male Spruce Grouse had flown in and over the course of the next few minutes, our avian guest delighted everyone with his fascinating courtship displays and attractive plumage. Although we went on to see many other species of birds and several more "giant deer" that day, the climax of the trip had been reached.

Many thanks to Stewart MacDonald for providing the necessary equipment and guidance that enabled us to carry on without him and to Colin Gaskell who once again demonstrated his leadership skills and knowledge of Algonquin Park and its wildlife. There is no guarantee that every field trip will produce the species sought, but the thrill of the chase is always there and the exhilaration of success can never be fully described. You just had to be there!¤



Shield

Fred W. Schueler

Craton-shield, patchwork of the world,
Proterozoic orogenies wrinkled flat,
Welded to unknown Archean archipelagos
of pre-biotic seas,
Levelled by age-long rain and scraped red-meat deep
by mile thick yester-glaciers.

Still rising, shaking off the blanket weight of ice,
And rolling down the fertilizing sky
Over sills segregated by the fleeing waters.

No age-old deep-leached soils here,
No Palaeozoic Ozarkian drainage plan.
Youth on age, the scarcely podzolized sand
Rests unconformably on Archean island roots.

Annapolis, Saint John, Rideau, Sydenham,
Assiniboine, Qu'Appelle, Saskatchewan, Fraser:
Dream-streams that drain your rubble-fringes.

Lest we suppose the piled detritus of Palaeozoic mud fall,
Or rafted islands crushed against your sides, represent the world
(crumpled South Sea Lotusland, or soft, deep-plowed Saskatchewan)
and not your blood-red carcass lying in the snow,
Life only holding where the ombrotrophic rain
Pours in the cracks or bogs the hollows.

Colour is rock, and life the flaming bush,
Trumpeted, curling, frost-fantastic lichens in the cracks.
Death is the water, black with life decayed,
And glinting steel-blue, unrecycled underneath the sky.

Gatineau Hills, 19 September 1986

Wanted!
Mailing Team Coordinator

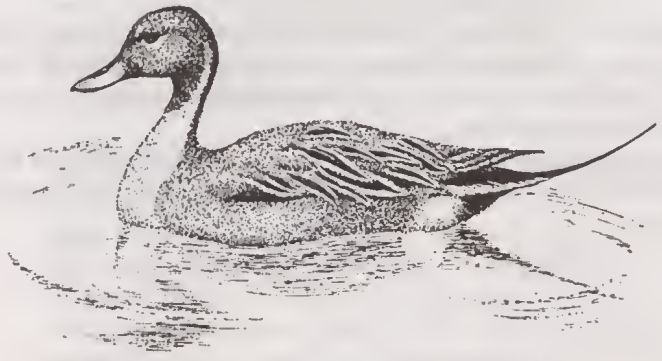
Fenja Brodo

With thanks for a job well done and with regret, we bid Frances Burke, our Mailing Team Coordinator, adieu. She is moving to British Columbia with our very best wishes. This means that once again we are asking for a volunteer to coordinate the mailing of *T & L*.

We have a cadre of six capable and energetic volunteers (see the masthead on the inside cover). They need a coordinator who is willing to learn the rules and regulations of Canada Post so that we are able to maintain our favourable mailing rates. Training will be given by Michael Murphy who understands the complexities of the system and is an important member of the team.

Each of our four mailings a year requires approximately one evening plus a daytime visit to the postal terminal. This work is now done in the Interpretive Centre of the Fletcher Wildlife Garden.

Volunteers please call Michael at 238-2697 (9-5 p.m.)¤



Northern Pintail C. Lewis

Coming Events

arranged by the Excursions & Lectures Committee.
For further information,
call the Club number (722-3050) after 10 a.m.

Times stated for excursions are departure times. Please arrive earlier; leaders start promptly. If you need a ride, don't hesitate to ask the leader. Restricted trips will be open to non-members only after the indicated deadlines.

ALL OUTINGS: Please bring a lunch on full-day trips and dress according to the weather forecast and the activity. Binoculars and/or spotting scopes are essential on all birding trips. Unless otherwise stated, transportation will be by car pool.

REGISTERED BUS TRIPS: Make your reservation for Club bus excursions by sending a cheque or money order (payable to The Ottawa Field-Naturalists' Club) to E.M. Dickson, 2037 Honeywell Avenue, Ottawa, Ontario K2A 0P7, at least ten days in advance. Include your name, address, telephone number and the name of the outing. Your cooperation is appreciated by the Committee so that we do not have to wait to the last moment to decide whether a trip should be cancelled due to low registration. We also wish to discourage the actual payment of bus fees on the day of the event.

EVENTS AT THE CANADIAN MUSEUM OF NATURE: The Club is grateful to the Museum for their cooperation and thanks the Museum for the use of these excellent facilities. Club members must be prepared to show their membership cards to gain access for Club functions after regular museum hours.

BIRD STATUS LINE: Phone 860-9000 to learn of recent sightings or birding potential in the Ottawa area. To report recent sightings call Michael Tate at 825-1231. This service is run on behalf of the Birds Committee and is available to members and non-members.

Le Club des Omithologues de l'Outaouais has a similar service, in French, run by Daniel St-Hilaire. The Club number is 778-3413 and the Bird Status Line is 778-0737.

Sunday
6 July
9:00 a.m.

BUTTERFLIES OF THE SEASON AND WETLAND SPECIALTIES

Leader: Bob Bracken

Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.

This all-day outing will visit several selected wetland habitats west of the city. Sedge skippers, Hairstreaks and Coppers will be encountered as well as some of the more elusive species such as the Baltimore. Bring a lunch, suitable footwear and a butterfly net, if you have one.

Sunday
13 July
1:00 p.m.

FERN IDENTIFICATION FIELD TRIP

Leader: Bill Arthurs

Meet: Elmvale Shopping Centre, northeast corner of the parking lot, St. Laurent Boulevard at Smyth Road.

This half-day outing will be a general botanical walk in the Mer Bleue Conservation Area with a special emphasis on some of the local fern species.

Wednesday
16 July
9:30 a.m.

MID-WEEK INSECT WALK AROUND MER BLEUE

Leader: Fenja Brodo

Meet: Elmvale Shopping Centre, northeast corner of the parking lot, St. Laurent Boulevard at Smyth Road.

The boardwalk takes us over open water and across a sphagnum bog then into the woods and across a wildflower meadow. Along the way we hope to see a myriad of insects and study some of them closely with magnification. Bring a lunch, hat and insect repellent. If the weather is bad, participants are invited to the Brodo laboratory at 28 Benson St. to study pinned insects. Call Fenja at 723-2054 in the morning to confirm which trip is on.

Saturday
19 July
7:00 a.m.

BIRDING TOUR OF THE EASTERN SEWAGE LAGOONS

Leader: Bruce Di Labio

Meet: Elmvale Shopping Centre, northeast corner of the parking lot, St. Laurent Boulevard at Smyth Road.

This long, half-day outing is intended primarily for novice birdwatchers to improve their skills in the identification of migrating shorebirds and interesting species of breeding waterfowl. Several sewage lagoons located near small communities east of Ottawa will be visited.

Sunday
27 July
9:00 a.m.

SHRUBS OF GATINEAU PARK
Leader: Bob Bracken
Meet: Front entrance of the Supreme Court Building, Wellington at Kent Street.
Bob will lead a general outing to Champlain Lookout where participants will learn how to identify some of the more than 100 species of common and spectacular shrubs found within the Park and the Ottawa District. Other forms of plant life and natural history will be enjoyed on this informative half-day trip. Wear comfortable footwear and bring a lunch and any field guides you so desire.

Saturday
9 August
9:00 a.m.

MINNOWS, MUDPUPPIES AND MOLLUSCS: CREATURES FROM A HIDDEN WORLD
Leader: Bob Bracken
Meet: Entrance gate to the Britannia Filtration Plant.
This will be a rare opportunity for Club members to observe some of the diverse life forms that dwell under the surface of the water. We hope to identify over a dozen species of fish (mainly minnows) as well as locate the region's only true aquatic salamander. This will also be an occasion to learn about some of the common molluscs of the Ottawa area. Rubber boots or hip waders are preferable but old running shoes and shorts for wading in shallow water are acceptable. Items will be brought to shore for those who choose not to test the waters. A small seine net will be used to capture the fish. Please bring a lunch, a drink and insect repellent for this outing of 4 or 5 hours duration.

Sunday
10 August
8:00 a.m.
to
8:00 p.m.

BUS EXCURSION: CHAFFEY'S LOCKS
Leaders: Bob Bracken and Peter Hall
Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.
Cost: $25.00 (includes transportation, trail fees and a B.B.Q. supper at the Biology Station).
(PLEASE REGISTER EARLY; see Coming Events introduction for details).
This excursion features a visit to the Queen's University Biology Station as well as the trails, beach and facilities of the Skycroft Outdoor Centre. This area of the Rideau Lakes district represents a transition zone where many southern species of plants and animals reach their northern limit.

Highlights may include Cerulean Warblers, Golden-winged Warblers, Black-billed Cuckoos and the Black Rat Snake, as well as rare ferns and butterflies. A boat trip to observe Ospreys and Common Loons on Lake Opinicon may also be arranged. A barbeque supper with salads and dessert will be held in the late afternoon before the return trip to Ottawa. Remember to bring your own lunch and a drink, binoculars and a bathing suit.

Saturday
16 August
8:30 a.m.

PTERIDOPHYTES: THE FERNS AND FERN ALLIES OF STONY SWAMP
Leader: Bob Bracken
Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.
This full-day outing is intended to view some of the 50 locally surviving species of the first vascular plant groups that reigned supreme when dinosaurs ruled the earth. The emphasis will be on species identification and diversification and a number of regionally rare species should be seen. Please bring a lunch, plenty of liquids, insect repellent and comfortable footwear (preferably hiking boots). There will be no washroom facilities available at the study area.

Sunday
17 August
7:00 a.m.

SHOREBIRD IDENTIFICATION OUTING
Leader: Tony Beck
Meet: Britannia Drive-In Theatre, 3090 Carling Avenue.
This half-day outing will provide novice and intermediate birdwatchers with an excellent opportunity to acquaint themselves with the characteristic field marks of immature and adult shorebirds. Tony will also provide instruction as to some of the more subtle identification aids that are not readily apparent.

Date and
Time to be
decided

MUSHROOM FIELD TRIP
Leader: Bob Bennett
This outing will be limited to 25 participants. Please register before August 31st at the Club number (722-3050). When a precise date has been established, registrants will be notified of the details and meeting place.

Date and Time to be decided

STARGAZING WITH THE ROYAL ASTRONOMICAL SOCIETY

Leaders: Philip Martin (OFNC) and Glen Le Drew of the Royal Astronomical Society of Canada.

Meet: Neatby Building, front entrance, Central Experimental Farm, one block west of the Irving Place-Maple Lane Drive traffic light on Carling Avenue.

Observation of the stars, the planets and the galaxies, as well as other features of the night sky (even the Moon!) from the Indian River Observatory near Almonte, can be a truly memorable experience in either late September or early October. The trip is limited to 25 people so please register by September 15th at the Club number (722-3050). Registrants will be advised when a specific date has been chosen and a map with directions will be distributed at the meeting place. Unfavourable weather may necessitate a rescheduling of the trip.

Saturday 6 September 9:30 a.m.

ASTERS AND GOLDENRODS

Leaders: Ellaine Dickson and Catherine O'Keefe

Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.

Bring a snack for this half-day trip as well as back issues (if you have them) of "Goldenrods" *T&L* 25(4):114-121 and "Asters of the Ottawa District" *T&L* 29(3):89-99, or any other field guides that may help solve the identification riddles posed by the various species of asters and goldenrods.

Sunday 7 September 9:00 a.m.

GEOLOGY OF GATINEAU PARK AND ENVIRONS

Leaders: Geof Burbidge and Bruce Summers

Meet: Supreme Court Building, front entrance, Wellington Street at Kent Street.

We are very lucky to have a variety of different types and ages of rocks in the Ottawa area. In the past few years participants have looked at glacial deposits, Paleozoic sedimentary rocks and fossils, building stones in downtown Ottawa and, last year, the highly mineralized Morrison Quarry near Wakefield. This year we will have a look at some of the many interesting aspects of the ancient

Precambrian rocks of the Canadian Shield in and around Gatineau Park. These rocks form the broader geologic setting for the Morrison Quarry and for quite a variety of small mines that were active in the past and contributed to the economic base of Ottawa's early development. Bring a lunch and suitable sturdy footwear. A magnifying glass and penknife would be useful too. Collecting is not permitted in the park so you can leave your rock hammers at home, but cameras and notebooks are welcome!

Tuesday **9 September** **8:00 p.m.**	**OFNC MONTHLY MEETING** **MEMBERS' SLIDE NIGHT** **Meet:** Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets. **Admission:** At least one natural history slide or a 50 cent donation to the Alfred Bog Fund. An ideal occasion to share your favourite natural history slides and reminiscences of past trips, both local and further afield, with fellow Club members. Those bringing a single slide need not speak if they so choose. Those bringing up to the maximum of 15 slides should contact either Rick Leavens (835-3336) or Catherine O'Keefe (745-4441) to prearrange their presentation.

Sunday
14 September
9:00 a.m.
to
4:00 p.m.

ANNUAL PICNIC: BUS TRIP TO THE MORRIS ISLAND CONSERVATION AREA

Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.

Cost: $8.00 (PLEASE REGISTER EARLY; see Coming Events introduction for details).

The Morris Island Conservation Area, on the banks of the Ottawa and Carp Rivers west of Fitzroy Harbour, offers a diversity of nature trails for Club members to explore. If time permits, we may also make a brief visit to the Bill Mason Outdoor Centre in West Carleton on the way back home. An additional fee of $3.00 per person will be collected at the picnic to defray the cost of apples, cheese and cake. Bring your own lunch and a drink. Please support the Club by taking the bus rather than your car!

Friday
19 September
7:30 p.m.

WORKSHOP ON FALL BIRDING IN THE OTTAWA AREA

Speaker: Bruce Di Labio
Meet: Community Gallery, third floor, east wing, Canadian Museum of Nature, Metcalfe and McLeod Streets.
Bruce will present an illustrated talk and overview on the fall migration of birds in the woodlots, fields and waterways around Ottawa. Participants will discover when and where to look for particular species, including several rarities, that frequent our area during this period. Put your new skills to work on the following day's Club outing!

Saturday
20 September
7:30 a.m.

BIRDING IN THE WEST END
Leader: Jim Harris
Meet: Britannia Drive-In Theatre, 3090 Carling Avenue.
This half-day outing will enable the group to visit several locales in the west end of Ottawa in quest of fall migrants.

Sunday
5 October
8:30 a.m.
to
4:30 p.m.

BUS EXCURSION:
AUTUMN COLOURS AT MURPHY'S POINT
Leaders: Eileen Evans and Pearl Peterkin
Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.
Cost: $10.00 (PLEASE REGISTER EARLY; see Coming Events introduction for details).
Murphy's Point Provincial Park is situated on the scenic shores of Big Rideau Lake approximately 20 km west of Perth. The park is covered with a mixed forest type that should be rich in autumnal colours and which harbours a varied array of flora and fauna. There are a number of easy walking trails that we will explore on this leisurely day in scenic Lanark County.

Saturday
11 October
7:30 a.m.

WATERBIRDS AT THE CORNWALL POWER DAM
Leader: Bruce Di Labio
Meet: Elmvale Shopping Centre, northeast corner of the parking lot, St. Laurent Boulevard at Smyth Road.
This will be a full-day outing to the American side of the Moses-Saunders Power Dam to observe various species of waterbirds (including ducks, grebes and gulls) that may be frequenting the waters at the power dam, Lake St. Lawrence and the nearby Wilson Hill Wildlife Management Area. Please bring a lunch and warm clothing as well as a passport or proof of citizenship / residency for entry into the U.S.A.

Tuesday **14 October** **8:00 p.m.**	**OFNC MONTHLY MEETING** **HIDDEN TREASURES OF THE DEEP "OLD SOUTH"** **Speaker:** Dan Brunton **Meet:** Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets. The U.S. Deep South is far more than orange juice, Mickey Mouse and ugly 1960s' newsreels. It's also an ecological wonderland which is enjoying a resurgence of interest from biologists, ecologists and conservationists. Dan's presentation will take us on a journey through the American southeast (from Virginia, the Carolinas and Georgia down to the northern panhandle of Florida) to explore natural areas that the tourists never see. From the fabulous swamplands that serve as primeval time capsules harbouring an amazing diversity of flora and fauna to the areas of unglaciated "flat rocks" that contain remnant vegetative communities more than nearly six million years old, Dan will lead us on an enthralling visual odyssey through the Land of Dixie.

Saturday **18 October** **7:30 a.m.**	**FALL BIRDING ALONG THE OTTAWA RIVER** **Leader:** Ray Holland **Meet:** Britannia Drive-In Theatre, 3090 Carling Avenue. Participants will visit several locales along the Ottawa River on a half-day outing to observe waterfowl and other migrating species. ¤

Any Articles for Trail & Landscape?

Have you been on an interesting field trip or made some unusual observations recently? Is there a colony of rare plants or a nesting site that needs protection? Write up your thoughts and send them to *Trail & Landscape*. If you have access to an IBM or IBM-compatible computer using 5.25 or 3.5 inch diskettes, all the better. If you don't, we will happily receive submissions in any form—typed, written, printed or painted!

DEADLINE: Material intended for the October-December 1997 issue should be in the editor's hands by August 15, 1997. Mail your manuscripts to:

Fenja Brodo
Editor, *Trail & Landscape*
28 Benson Street
Nepean, Ontario, K2E 5J5
H: (613)723-2054; Fax: (613)364-4027
e-mail fbrodo@cyberus.ca

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